

2047-03-25

EPA REGION-9 SUPERFUND RECORDS CENTER



2047-00325

WASTE DISPOSAL INC

PROPERTY OF EPA REGION 9

HAZARDOUS WASTE MANAGEMENT DIVISION



PLEASE RETURN TO RECORDS CENTER

215 FREMONT STREET

SAN FRANCISCO, CALIFORNIA 94105

3/1
AR0057

REPORT
SOIL SAMPLING PROGRAM
TOXO SPRAY-DUST, INC. SITE
SANTA FE SPRINGS, CALIFORNIA

DAMES & MOORE JOB NO. 13262-017-042
NOVEMBER 5, 1986

Dames & Moore

17.0G/11-COV





68

November 5, 1986

Redevelopment Agency
City of Santa Fe Springs
11710 Telegraph Road
Santa Fe Springs, California 90670

Attention: Mr. Richard H. Weaver
Director, Redevelopment Agency

Subject: Report
Soil Sampling Program
Toxo Spray-Dust, Inc. Site
Santa Fe Springs, California

INTRODUCTION

Presented in this report are the results of the soil sampling program conducted at the Toxo Spray-Dust, Inc. site at 12651 E. Los Nietos Road, Santa Fe Springs, California. The site is shown relative to surrounding properties on Figure 1. Dames & Moore has previously conducted a review of previous site assessment and site remediation at the property (see our Draft Review, dated May 20, 1986) and a floor sampling survey and shallow soil vapor survey (see our Draft Report, dated August 19, 1986). The soil sampling program was designed to evaluate whether or not potentially hazardous compounds are present in the soils beneath the former operations building. The soil sampling locations are shown on Figure 2.



PURPOSE AND SCOPE

The purpose of the current investigation is to: (1) collect soil samples from the area beneath the former building location; (2) provide additional site assessment recommendations, if necessary. The scope of investigative activities conducted includes collection of four soil samples, analysis of two of the samples for organochlorine pesticides (using EPA Method 8080 for pesticides only) and organophosphorous pesticides (using EPA Method 8140), interpretation of the analytical results, and formulation of recommendations for additional site assessment, if required. The results and conclusions of our completed studies are discussed below followed by our recommendations for further sampling and analysis.

INVESTIGATIVE METHODS

On September 18, 1986, a Dames & Moore geologist was onsite at the Toxo Spray-Dust, Inc. site. The operations building had been demolished by L. Blain Company under contract to the site owner, earlier in September 1986 and the metal and concrete portions of the building removed. Only the wooden portions of the building remained onsite pending approval from the Los Angeles County Department of Health Services for disposal.

Four soil samples were collected from two locations within the limits of the former building location (see Figure 2 for sampling locations). Samples 1A and 2A were collected from the soil surface and samples 1B and 2B were collected at a depth of about 10 inches directly beneath 1A and 2A respectively. Each of the four samples were collected using separate pre-cleaned stainless steel scoops. Separate scoops were used to dig the holes from which samples 1B and 2B were collected. While digging both of the holes, the geologist detected a slight odor of "fertilizer or insect repellent". The samples were placed in pre-cleaned wide mouth glass jars equipped with Teflon-lined lids. After closure, the sample jars were sealed with electrical tape. Labels attached to each sample jar included the following information: (1) sample number; (2) date and time of collection; (3) collector's name;



(4) owner and location. The sample jars were stored in an ice chest cooled with blue ice pending delivery to the analytical laboratory. Completed chain of custody forms accompanied the samples which were hand delivered to the analytical laboratory.

Analytical Testing Program

The soil samples were analyzed by International Technology Corporation, Analytical Services Laboratory (IT) in Cerritos, California. Samples 1A and 2A were analyzed for organochlorine pesticides using EPA Method 8080 which includes gas chromatography with electron capture detection (GC/ECD), and for organophosphorous pesticides using EPA Method 8140 which includes gas chromatography with flame photometric detection (GC/FPD). Quality control was maintained throughout laboratory analytical procedures. The results of the analyses are summarized in Table 1 and presented in Appendix A. The IT laboratory is California Department of Health Services-approved and EPA-accredited to perform these analytical procedures.

RESULTS AND CONCLUSIONS

Investigative Results

The results of the laboratory analyses of the soil samples (Table 1 and Appendix A) indicate that the surface soils in the area of the sample locations contain elevated levels of several pesticides. The California Administrative Code Title 22, Division 4, Chapter 30, Article 11, Section 66699 has established concentration limits for particular compounds/substances above which the substances being tested are considered to be hazardous.

The California Department of Health Services considers any waste which contains a compound listed in Table 1 to be a hazardous waste if: (1) the total concentration of a particular compound exceeds the Total Threshold Limit Concentration (TTLC) for that compound; or, (2) the extractable concentration (in mg/l), as determined by a Waste Extraction Test (WET), of any listed compound exceeds the respective Soluble Threshold Limit Concentration (STLC) for that compound. It should be noted that the samples were analyzed only for total concentrations; WET tests were not performed.

Total concentrations in both samples 1A and 2A exceed the TTLC for Aldrin (1.4 ppm), 4,4'-DDE (1.0 ppm) and 4,4'-DDT (1.0 ppm).

CONCLUSIONS

It is our conclusion that the surface soils in the vicinity of the two sample locations are hazardous because of their aldrin 4,4'-DDE and 4,4'-DDT concentrations. It is our opinion that the pesticides contamination was most likely caused by pesticides seeping through gaps in the wooden floor area or cracks in the concrete floor area of the building.

RECOMMENDATIONS

We recommend that an additional soil sampling program be implemented to evaluate the extent of contamination. To accomplish this, we recommend that soil samples be collected from eight additional sample locations, as shown on Figure 2. Three soil samples, one at the surface, one at a depth of one foot and one at a depth of three feet, should be collected at each sample location. The soil samples should be analyzed for organochlorine pesticides (by EPA Method 8080 for pesticides only) and organophosphorous pesticides (EPA Method 8140).

Dames & Moore has enjoyed conducting this investigation for you. If you have any questions regarding this report, please contact us. We look forward to assisting you on future projects.

Very truly yours,

DAMES & MOORE

Thomas A. Vinckier
Thomas A. Vinckier
Associate

Gerald A. Hels
Project Engineer

TAV:GAH:ses

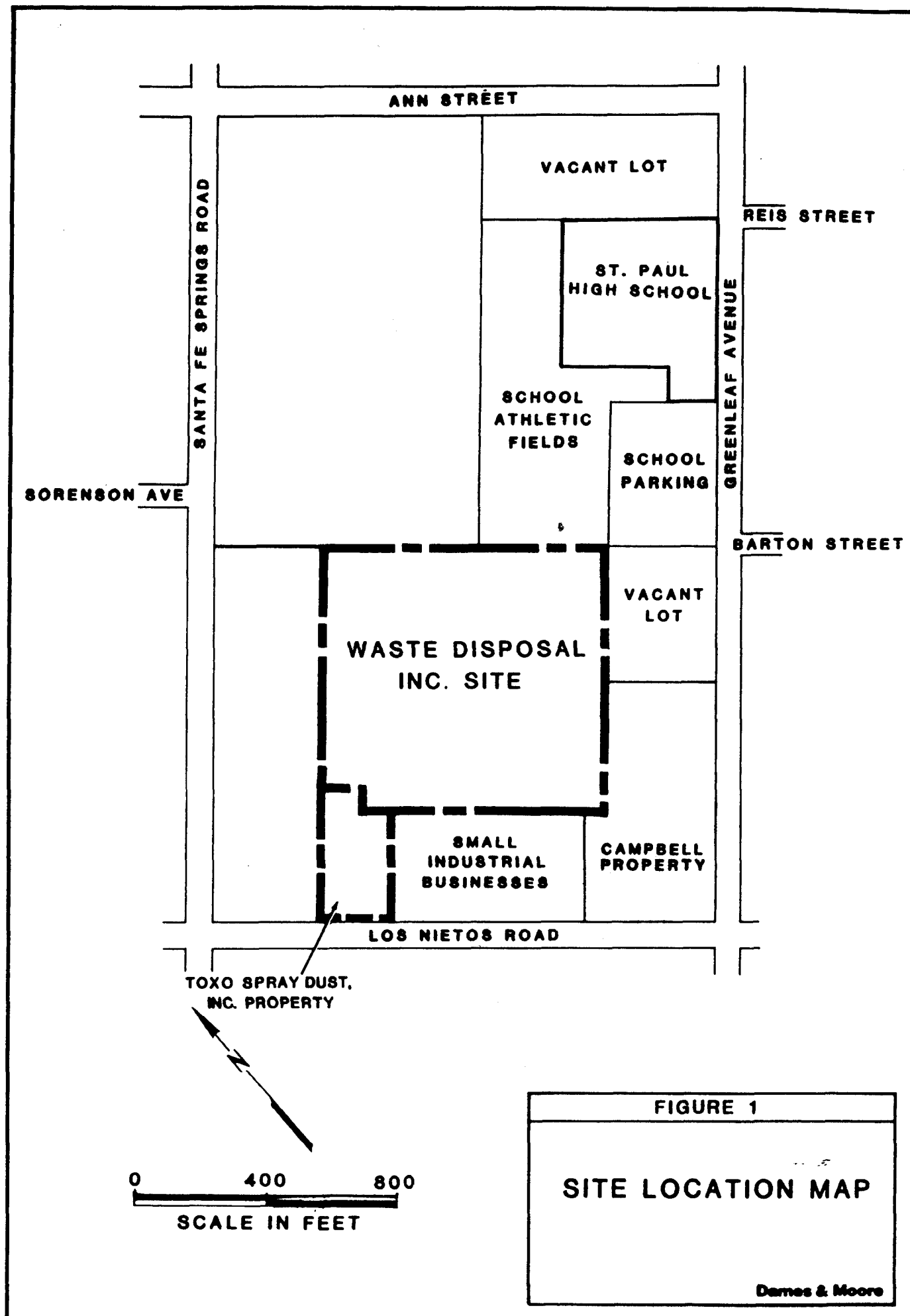
TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY⁽¹⁾

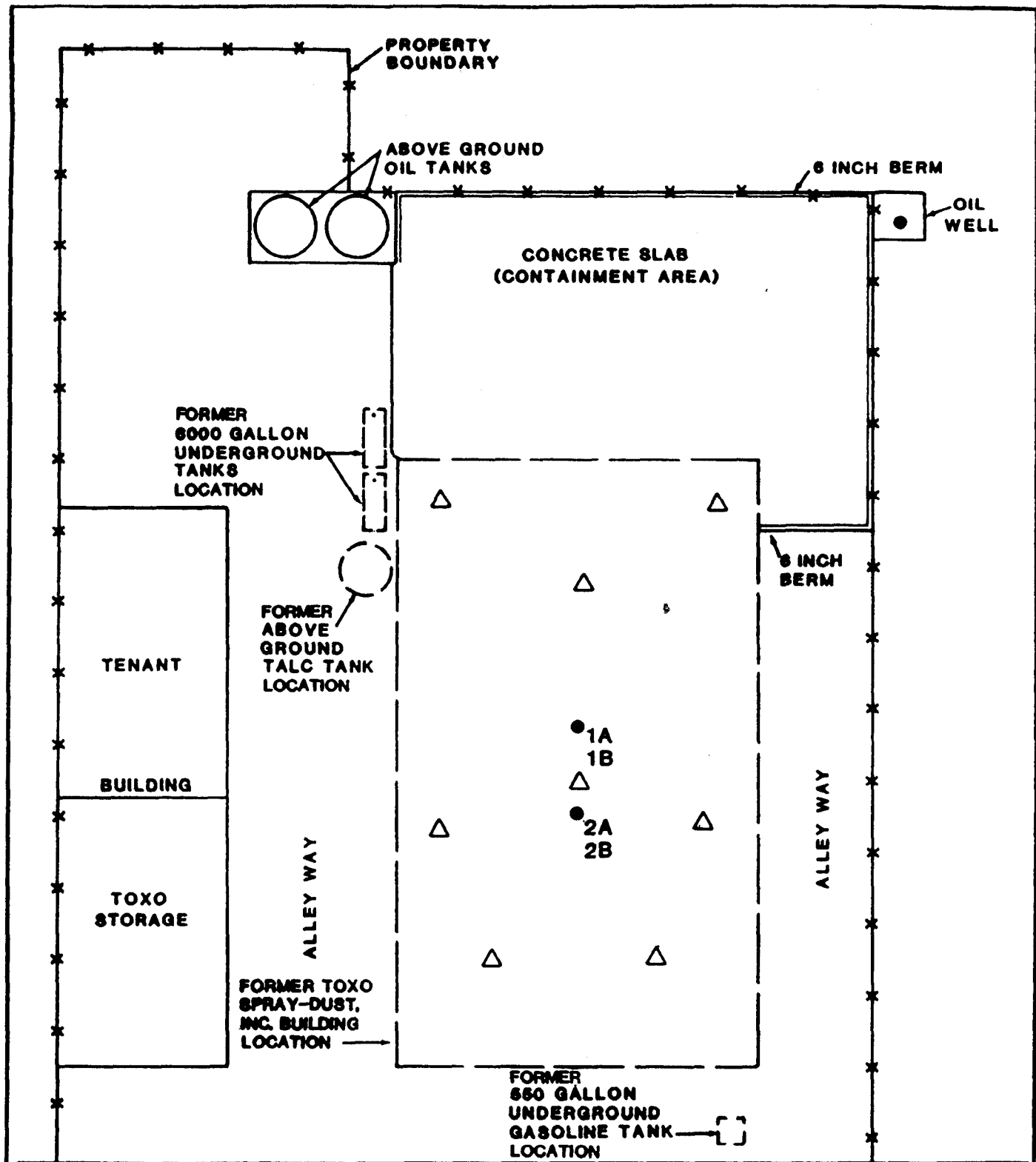
CONSTITUENT	SAMPLE AND CONCENTRATION (PPM) ⁽²⁾	
	1A	2A
Malathion	100	18
Ethyl Parathion	11	6.6
Aldrin	3	3
Endosulfan I	200	40
4,4'-DDE	6	7
Endosulfan II	90	20
4,4'-DDT	300	200

(1) Only those constituents detected in at least one of the samples are shown herein.

(2) ppm = Parts Per Million

17.0G/11-T1





EXPLANATION:

1A ● SOIL SAMPLE LOCATION

1B

△ PROPOSED SAMPLING LOCATIONS



NOT TO SCALE

FIGURE 2

**SAMPLING LOCATIONS-
TOXO SPRAY-DUST
INC. SITE**

Dames & Moore

APPENDIX A
LABORATORY ANALYTICAL RESULTS

17.0G/11-APPACOV

RECEIVED OCT - 9 1986



ANALYTICAL SERVICES

17605 Fabrica Way • Cerritos, California 90701 • 213-921-9831 / 714-523-9200



CERTIFICATE OF ANALYSIS

Prepared For **Dames & Moore**
812 Anacapa, Suite A
Santa Barbara, CA 93101

Date **September 30, 1986**


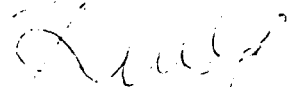
Attn: **Jerry Hels**

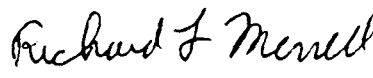
Date Received	September 18, 1986	Job Number	13262-016-42	Lab Number	38316/rjj
---------------	---------------------------	------------	---------------------	------------	------------------

Two (2) soil samples labeled: "13262-016-042-1A",
"13262-016-042-2A".

The samples were extracted and analyzed for organophosphate pesticides according to EPA method 8140. The results are listed in Table I.

The samples were also extracted according to modified EPA Method 608 and the extracts were purified several times with TBA. The purified extracts were analyzed for organochlorine pesticides and PCB's by direct injection into a Varian 6000 gas chromatograph equipped with an electron capture detector. Due to large concentration of chlorinated compounds, major dilutions were employed. Hence, you may notice large detection limits for some specific compounds. The results are listed on the following GC Pesticide summary sheets.



Raymond W. Ip
Asst. Tech. Director


Richard L. Merrell
Laboratory Director

Accredited by the American Industrial Hygiene Association.

Dames & Moore
J. Hels

September 30, 1986
JN: 38316 - Page 2

Table I

	<u>Micrograms/gram</u>	
	<u>13262-016-042-1A</u>	<u>13262-016-042-2A</u>
Phorate	ND<0.67	ND<0.67
Dichlorous	ND<0.33	ND<0.33
Disulfoton	ND<0.03	ND<0.03
Demeton	ND<1.0	ND<1.0
Ethoprop	ND<0.27	ND<0.27
Mevinphos	ND<0.33	ND<0.33
Diazinon	ND<0.33	ND<0.33
Ronnel	ND<0.03	ND<0.03
Chlorpyrifos	ND<0.17	ND<0.17
Fenthion	ND<0.17	ND<0.17
Methyl Parathion	ND<0.17	ND<0.17
Dimethoate	ND<0.33	ND<0.33
Malathion	100	18
Merphos	ND<0.33	ND<0.33
Prothiophos	ND<1.0	ND<1.0
Ethyl Parathion	11	6.6
Bolstar	ND<0.17	ND<0.17
Stirophos	ND<0.23	ND<0.23
EPN	ND<0.03	ND<0.03
Fensulfothion	ND<0.33	ND<0.33
Azinphos Methyl	ND<1.7	ND<1.7
Coumaphos	ND<0.67	ND<0.67

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

GC PESTICIDE ANALYSIS

Page 3

SAMPLE IDENTIFICATION: 38316 - 13262-016-042-1ADATE ANALYZED: 9-27-86UNITS: Micrograms/kilogram (ppb)PESTICIDES- (PP's)

alpha-BHC	ND<2000
beta-BHC	ND<2000
delta-BHC	ND<2000
gamma-BHC (Lindane)	ND<2000
Heptachlor	ND<2000
Aldrin	3000
Heptachlor Epoxide	ND<2000
Endosulfan I	200,000
Dieldrin	ND<3000
4,4'-DDE	6,000
Endrin	ND<3000
Endosulfan II	90,000
4,4'-DDD	ND<3000
Endrin Aldehyde	ND<3000
Endosulfan Sulfate	ND<3000
4,4'-DDT	300,000
Methoxychlor	ND<20,000
Endrin Ketone	ND<3,000
Chlordane	ND<20,000
Toxaphene	ND<30,000

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

GC PESTICIDE ANALYSIS

Page 4

SAMPLE IDENTIFICATION: 38316 - 13262-016-042-2ADATE ANALYZED: 9-27-86UNITS: Micrograms/kilogram (ppb)PESTICIDES-(PP's)

<u>alpha-BHC</u>	<u>ND<2000</u>
<u>beta-BHC</u>	<u>ND<2000</u>
<u>delta-BHC</u>	<u>ND<2000</u>
<u>gamma-BHC (Lindane)</u>	<u>ND<2000</u>
<u>Heptachlor</u>	<u>ND<2000</u>
<u>Aldrin</u>	<u>3000</u>
<u>Heptachlor Epoxide</u>	<u>ND<2000</u>
<u>Endosulfan I</u>	<u>40,000</u>
<u>Dieldrin</u>	<u>ND<3000</u>
<u>4,4'-DDE</u>	<u>7,000</u>
<u>Endrin</u>	<u>ND<3000</u>
<u>Endosulfan II</u>	<u>20,000</u>
<u>4,4'-DDD</u>	<u>ND<3000</u>
<u>Endrin Aldehyde</u>	<u>ND<3000</u>
<u>Endosulfan Sulfate</u>	<u>ND<3000</u>
<u>4,4'-DDT</u>	<u>200,000</u>
<u>Methoxychlor</u>	<u>ND<20,000</u>
<u>Endrin Ketone</u>	<u>ND<3,000</u>
<u>Chlordane</u>	<u>ND<20,000</u>
<u>Toxaphene</u>	<u>ND<30,000</u>

ND - This compound was not detected; the limit of detection for this analysis is less than the amount stated in the table above.

SUMMARY OF FINDINGS
PRELIMINARY SITE CHARACTERIZATION
WASTE DISPOSAL, INC. SITE
FOR REDEVELOPMENT AGENCY,
CITY OF SANTA FE SPRINGS, CALIFORNIA

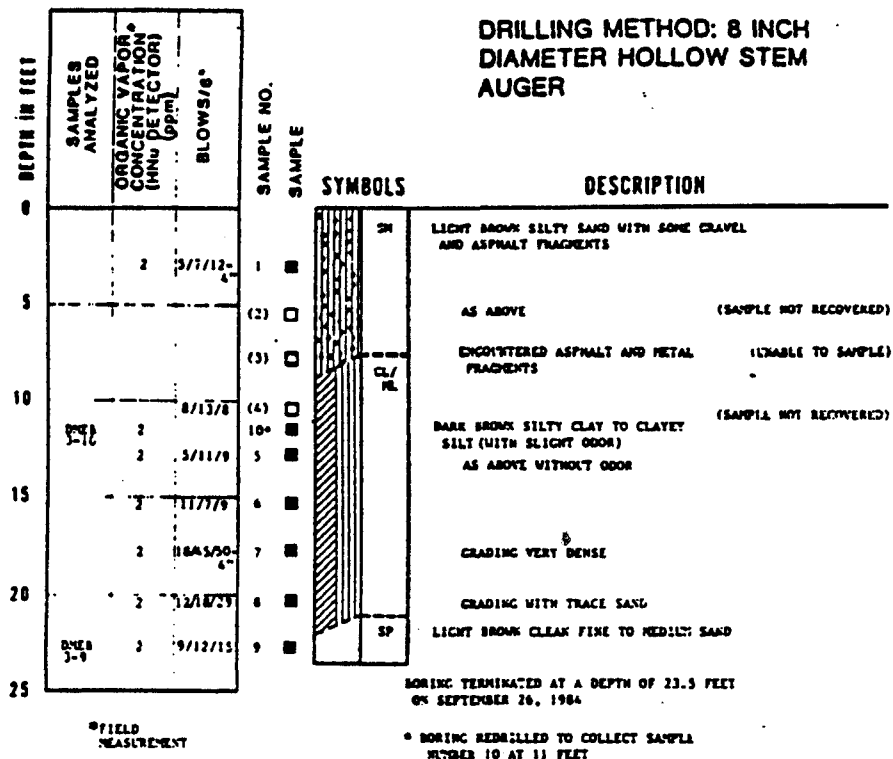
DAMES & MOORE JOB NO. 13262-005-01
SANTA BARBARA, CALIFORNIA
DECEMBER 7, 1984

Dames & Moore



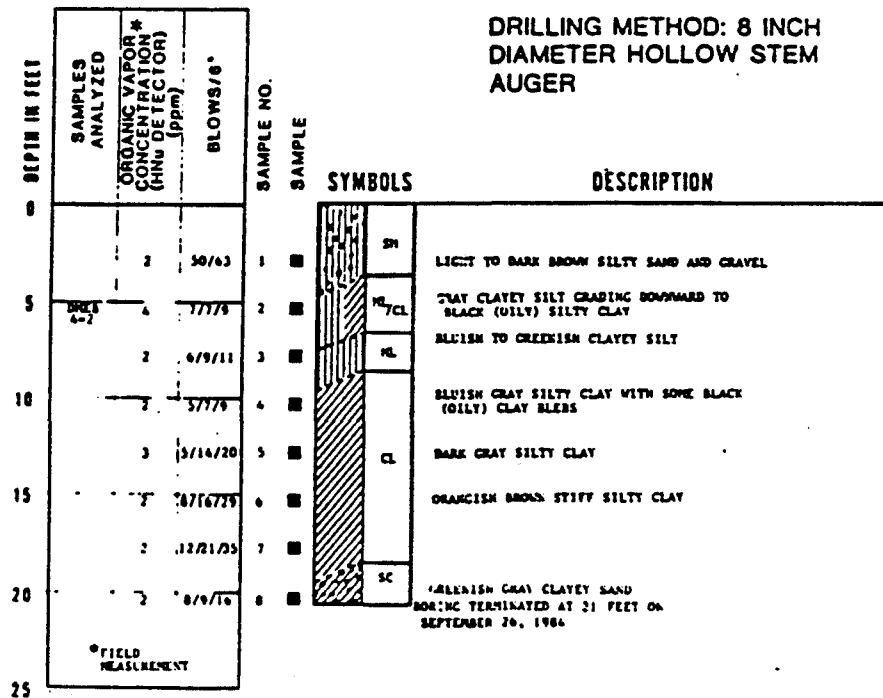
BORING DMEB-3

DRILLING METHOD: 8 INCH
DIAMETER HOLLOW STEM
AUGER



BORING DMEB-4

DRILLING METHOD: 8 INCH
DIAMETER HOLLOW STEM
AUGER



SANTA FE SPRINGS ROAD

EXISTING
BUILDINGS

DMEB-2
At 3' concrete layer
Soil mixed
with waste
material
between 3.5-14'
Bored to 19 ft

DMEB-1

22.5' deep
at 3' concrete layer
3'-13' Brown/black clay
and black oily waste
13'-22.5' Viscous liquid

DMEB-3

DMEB-4
2-3' thick
Black oily
Silty clay
beneath 4'
of fill soil
Bored to 19'

EXISTING BUILDINGS

GREENLEAF AVENUE

Subsurface Sampling

LOS NIETOS ROAD



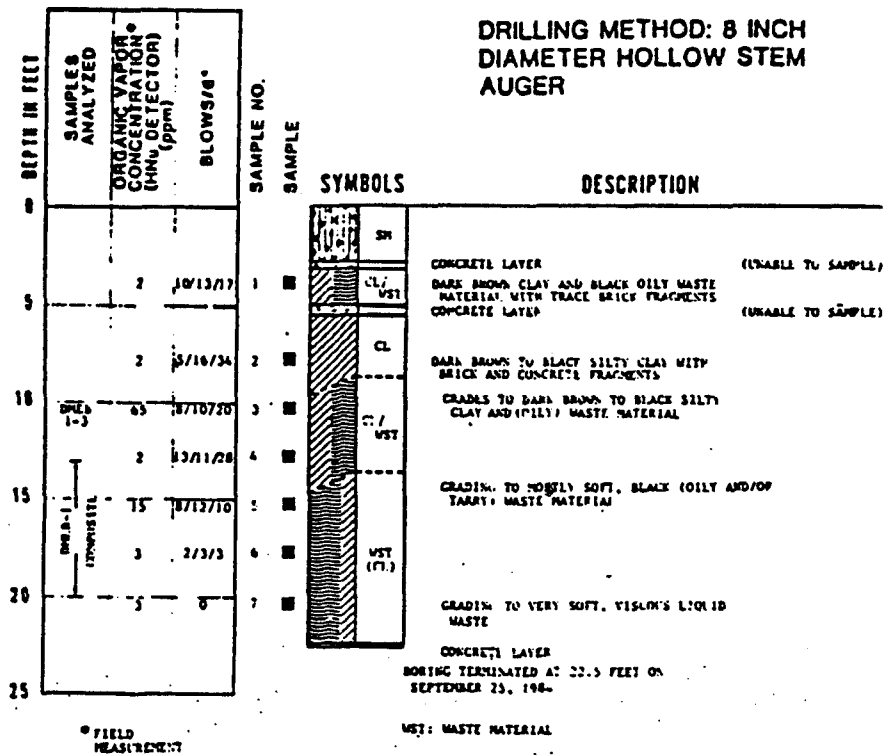
BORING LOCATION MAP

EXPLANATION:

⊕ DAMES & MOORE
ENVIRONMENTAL BORING

BORING DMEB-1

DRILLING METHOD: 8 INCH
DIAMETER HOLLOW STEM
AUGER



BORING DMEB-2

DRILLING METHOD: 8 INCH
DIAMETER HOLLOW STEM
AUGER

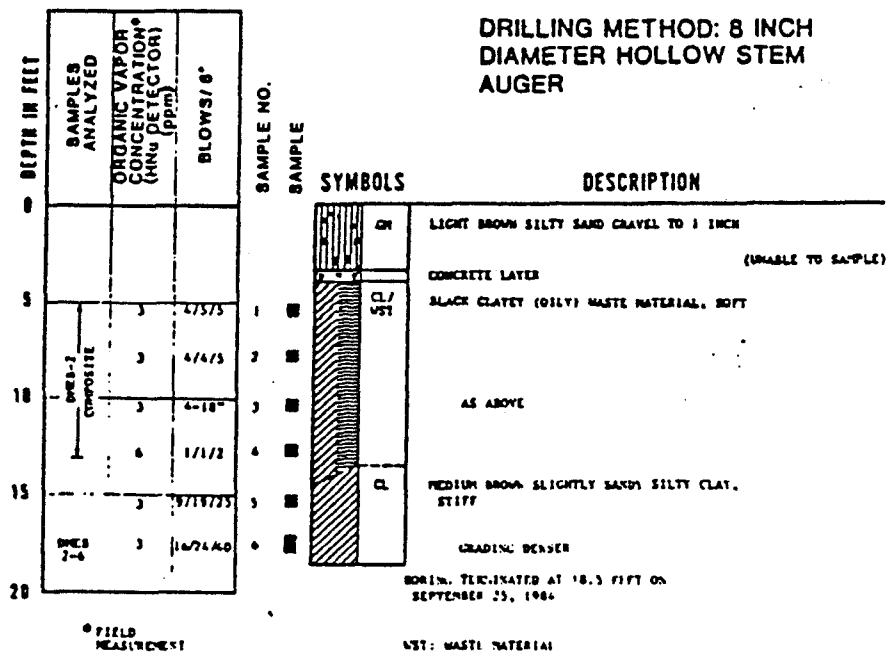


TABLE 2

SUMMARY OF ANALYTICAL RESULTS FOR IDENTIFIED PRIORITY POLLUTANTS
(EPA METHODS 624 and 625)¹
(micrograms/kilogram)

<u>Identified Priority Pollutant</u>	<u>DMEB-1 Sample 3</u>	<u>DMEB-1 Composite</u>	<u>DMEB-2 Composite</u>	<u>DMEB-2 Sample 6</u>	<u>DMEB-3 Samples 9 and 10</u>	<u>DMEB-4 Sample 2</u>
<u>Volatiles (EPA Method 624)</u>						
4V benzene	ND	5100	ND	ND	ND	ND
30V trans-1, 2, dichloroethene	ND	1100	ND	ND	ND	ND
38V ethylbenzene	1800	25000	1900	ND	ND	ND
44V methylene chloride	ND	7000	ND	ND	ND	ND
85V tetrachloroethene	ND	22000	ND	ND	ND	ND
86V toluene	3100	57000	ND	ND	ND	ND
87V trichloroethene	ND	13000	ND	ND	ND	ND
<u>Hazardous Substances² (EPA Method 624)</u>						
CL14 2-butanone	ND	5100	ND	ND	ND	ND
CL20 total xylenes	15000	120000	4800	ND	ND	ND
<u>Base/Neutral Compounds (EPA Method 625)</u>						
39B flouranthene	ND	ND	ND	ND	ND	210
55B naphthalene	29000	66000	13000	ND	ND	ND
72B benzo (a) anthracene	ND	ND	ND	ND	ND	380
73B benzo (a) pyrene	ND	ND	ND	ND	ND	1100
75B benzo (k) flouranthene	ND	ND	ND	ND	ND	1500
76B chrysene	ND	ND	ND	ND	ND	460
79B benzo (phi) perylene	ND	ND	ND	ND	ND	200
81B phenanthrene	24000	30000	ND	ND	ND	ND
83B indeno (1,2,3-cd) pyrene	ND	ND	ND	ND	ND	300
84B pyrene	ND	ND	ND	ND	ND	160

¹ Results are given only for those compounds which were detected in one or more samples; detection limits vary as shown in Appendix.

² Butanone and xylenes are non-priority pollutants.

ND: Not detected (see Appendix for detection limits)

TABLE 1

SUMMARY OF ANALYTICAL RESULTS FOR CAM* INORGANIC COMPOUNDS (METALS)¹

(Results in mg/kg)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	<div> <div>10' 4.5 samples</div> <div>12.5' to 20' 5 samples</div> <div>5' to 12.5' 4 samples</div> <div>17.5' 2 samples</div> <div>22.5' 1 sample</div> <div>11' 1 sample</div> <div>5' 1 sample</div> </div>						
			DHEB-1 Sample 3	DHEB-1 Composite	DHEB-2 Composite	DHEB-2 Sample 6	DHEB-3 Sample 9	DHEB-3 Sample 10	DHEB-4 Sample 2
Arsenic	500	5	<5	<5	<5	<5	<u>30</u>	<5	<5
Antimony	500	15	<5	<5	<5	<5	<5	<5	<5
Barium	10,000	100	80	<u>310</u>	<u>930</u>	<u>120</u>	53	95	<u>120</u>
Beryllium	75	0.75	<0.5	<0.5	<0.5	0.65	<0.5	<0.5	<0.5
Cadmium	100	1	<u>2.5</u>	<u>2.6</u>	<u>1.9</u>	<u>2.0</u>	0.5	<u>1.6</u>	<u>1.9</u>
Chromium III/IV ²	2500/500	560/5	21	310	24	30	7.1	18	27
Cobalt	8000	80	4.6	5.0	3.9	12	3.6	7.6	9.2
Copper	2500	25	<u>44</u>	<u>57</u>	<u>28</u>	<u>28</u>	9.4	17	<u>34</u>
Lead	1000	5	<u>130</u>	<u>250</u>	<u>280</u>	<5	<5	<5	<u>17</u>
Mercury	20	0.2	<u>0.25</u>	0.19	<u>0.22</u>	0.1	<0.1	<0.1	<0.1
Molybdenum	3500	350	<10	<10	<10	<10	<10	<10	<10
Nickel	2000	20	17	<u>38</u>	<u>27</u>	<u>22</u>	6.6	14	<u>23</u>
Selenium	100	1	<1	<1	<1	<1	<1	<1	<1
Silver	500	5	<u>500</u>	<2	<2	<2	<2	<2	<2
Thallium	700	7	<5	<5	<u>30</u>	<5	<5	<5	<5
Vanadium	2400	24	22	<u>45</u>	24	<u>49</u>	14	<u>32</u>	<u>32</u>
Zinc	5000	250	150	<u>2300</u>	130	57	22	42	220

¹ Samples were analyzed only for total concentration of metals; underlined values signify that total concentration found exceeds the Soluble Threshold Limit Concentrations.

² Reported as Cr III plus Cr IV.

* CAM: California Assessment Manual, California Department of Health Services

SUMMARY OF FINDINGS
PHASE II INVESTIGATION
WASTE DISPOSAL INC. SITE
FOR REDEVELOPMENT AGENCY
CITY OF SANTA FE SPRINGS, CALIFORNIA

MARCH 14, 1985
SANTA BARBARA, CALIFORNIA

Dames & Moore



EXPLANATION:

MW-1 MONITORING WELL
SHOWING WATER
LEVEL (MEASURED
117.89 MARCH 4, 1985)



0 200 FEET
SCALE

SITE MAP
SHOWING WATER LEVELS

Dames & Moore

FIGURE 8

SANTA FE SPRINGS ROAD

EXISTING
BUILDINGS

EXISTING BUILDINGS

LOS NIETOS ROAD

GREENLEAF AVENUE

QUANSET
HUT
AREA

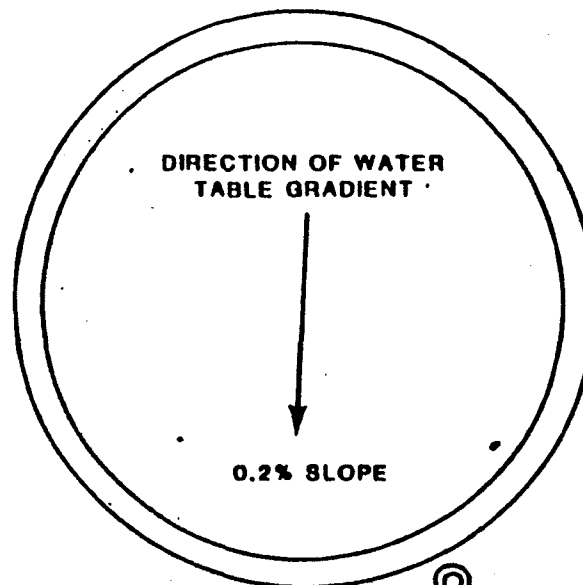
⊙ MW-1
117.89

DIRECTION OF WATER
TABLE GRADIENT

0.2% SLOPE

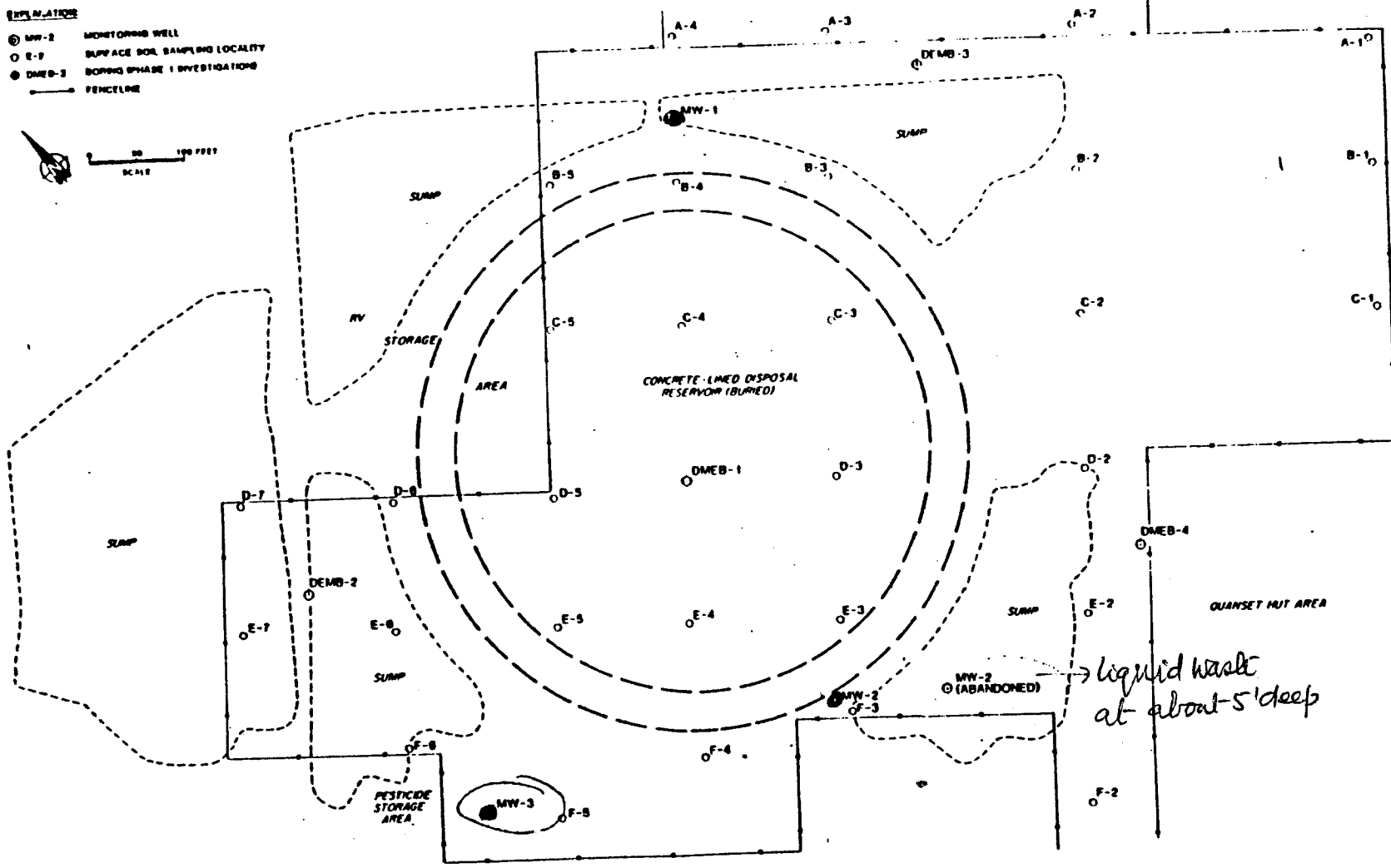
⊙ MW-3
116.28

⊙ MW-2
116.53



EXPLANATION

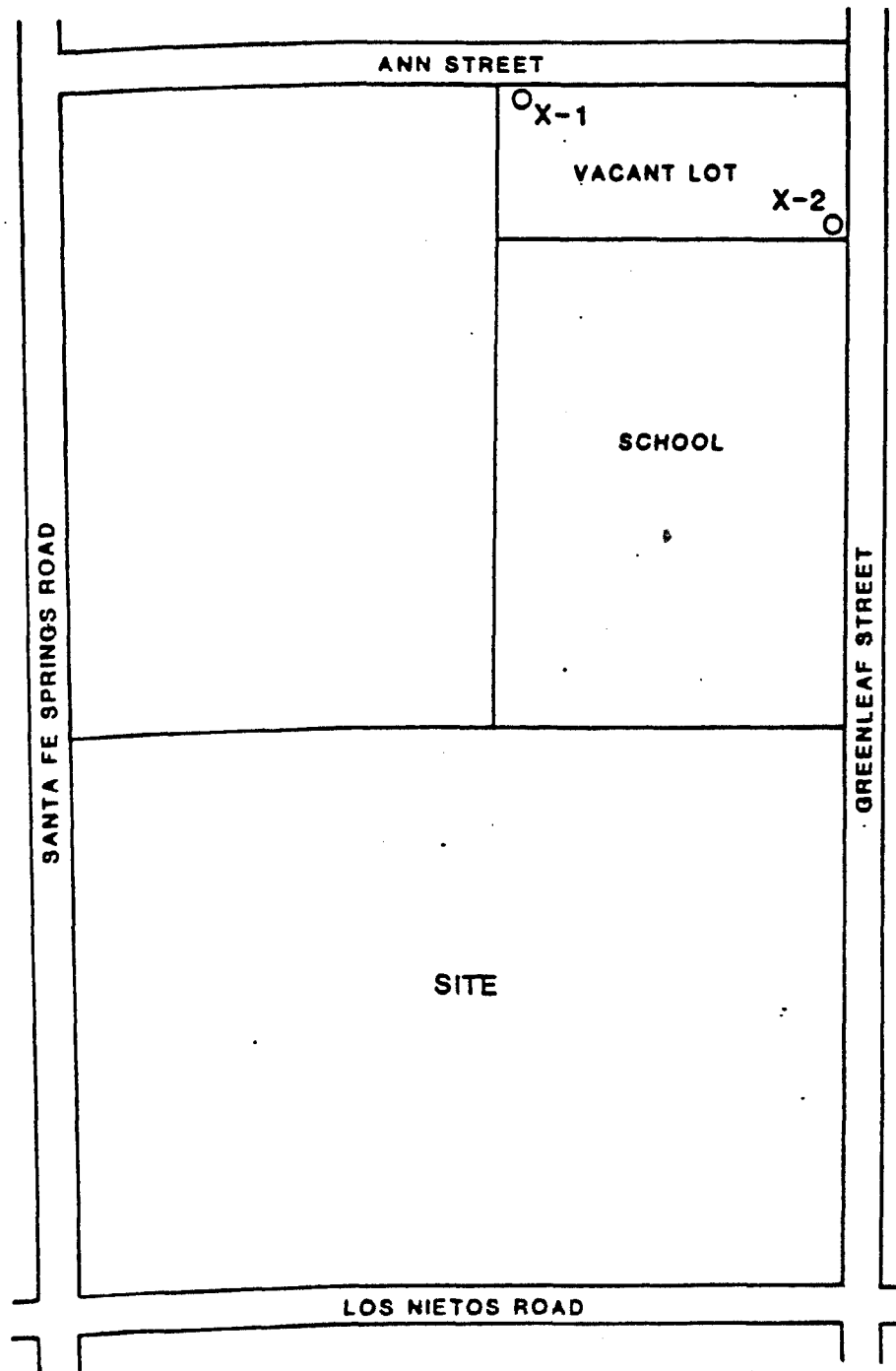
- MW-2 MONITORING WELL
- E-7 SURFACE BOR. SAMPLING LOCALITY
- DMEB-3 BORING PHASE I INVESTIGATION
- FENCELINE




liquid waste
at about 5' deep

Surface Sampling

FIGURE 1
SITE PLAN
SHOWING WELL, BORING
AND SAMPLING LOCALITIES



EXPLANATION:

X-1  SURFACE SOIL SAMPLE LOCALITY

0  400 FEET
SCALE



FIGURE 7

**OFFSITE SURFACE
SAMPLE LOCALITIES**

Dames & Moore

TABLE 1 (continued)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	R-4	R-5	C-1	C-2	C-3	C-4	C-5	D-2
Arsenic	500	5	16(<4)	29(<4)	5	<5	<5	<5	<5	<5
Antimony	500	15	<5	<5	<5	<5	<5	<5	<5	<5
Barium	10,000	100	97	100(2.1)	220(6.1)	110(6.2)	140(2.6)	130(3.3)	150(6.2)	150(2.1)
Beryllium	75	0.75	0.50	0.52	0.70	0.58	0.58	0.59	0.77(<0.2)	<0.5
Cadmium	100	1	0.50	0.52	<0.5	0.69	0.64	<0.5	1.3(<0.1)	0.62
Chromium III/IV ²	2500/500	560/5	14	15	24	20	18	18	20	17
Cobalt	8000	80	6.4	5.8	10	7.2	8.3	8.9	9.2	4.8
Copper	2500	25	15	19	28(<0.2)	21	29(0.23)	22	27(0.28)	54(2.5)
Lead	1000	5	25(<1)	26(<1)	92(<u>5.1</u>)	57(1.9)	82(3.2)	11(<1)	57(3.3)	130(<1)
Mercury	20	0.2	-	-	-	-	-	-	-	-
Molybdenum	3500	350	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	2000	20	8.8	11	16	14	16	14	22(0.60)	10
Selenium	100	1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	500	5	<2	<2	<2	<2	<2	<2	<2	<2
Thallium	700	7	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	2400	24	22	23	32(0.66)	28(0.51)	28(<0.5)	29(<0.5)	19	19
Zinc	5000	250	69	85	130	58	80	48	110	110

¹ Samples were analyzed first for total concentration of metals; in cases where total concentration found exceeds Soluble Threshold Limit Concentration (STLC), Waste Extraction (WET) tests were performed to determine soluble fraction of that metal. These results are shown in parentheses. Underlined values in parentheses signify cases where the extractable concentration (soluble fraction) exceeds the STLC for that element.

² Reported as CR III plus CR IV.

* CAM: California Assessment Manual, California Department of Health Services.

TABLE 3 (Continued)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	D-3	D-5	D-6	D-7	E-2	E-3	E-4	E-5
Arsenic	500	5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony	500	15	<5	<5	<5	<5	<5	<5	<5	<5
Barium	10,000	100	140(2.1)	180(3.4)	120(3.2)	700(3.9)	160(5.2)	410(1.5)	83	410(3.8)
Beryllium	75	0.75	0.50	0.51	0.50	0.52	0.77(<0.05)	0.56	0.50	<0.5
Cadmium	100	1	0.58	0.58	0.52	0.83	2.4(0.10)	<0.5	<0.5	0.54
Chromium III/IV ²	2500/500	560/5	16	18	14	19	20	19	12	25
Cobalt	8000	80	7.7	7.1	6.9	7.3	8.0	8.1	6.3	6.6
Copper	2500	25	46(1.0)	19(0.80)	26(<1)	16(1.2)	25(<0.1)	45(2.2)	12	130(8.8)
Lead	1000	5	19(<1)	110(<u>6.2</u>)	41(1.2)	86(2.8)	35(0.47)	80(0.28)	13(0.66)	130(<u>6.1</u>)
Mercury	20	0.2	-	-	-	-	-	-	-	-
Molybdenum	3500	350	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	2000	20	15	13	14	16	27(0.82)	13	10	15
Selenium	100	1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	500	5	<2	<2	<2	<2	<2	<2	<2	<2
Thallium	700	7	<1	<1	6	<1	<1	<1	<1	<1
Vanadium	2400	24	24(<0.5)	25(<0.5)	26(<0.5)	27(<0.5)	41(0.60)	27(0.50)	21	23
Zinc	5000	250	79	130	56	130	74	120	34	130

¹ Samples were analyzed first for total concentration of metals; in cases where total concentration found exceeds Soluble Threshold Limit Concentration (STLC), Waste Extraction (WET) tests were performed to determine soluble fraction of that metal. These results are shown in parentheses. Underlined values in parentheses signify cases where the extractable concentration (soluble fraction) exceeds the STLC for that element.

² Reported as CR III plus CR IV.

* CAM: California Assessment Manual, California Department of Health Services.

TABLE 1 (continued)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	F-6	F-7	F-2	F-3	F-4	F-5	F-6	Z-3
Arsenic	500	5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony	500	15	<5	<5	<5	<5	<5	<5	<5	<5
Barium	10,000	100	290(5.2)	220(2.7)	900(1.4)	280(1.8)	140(5.6)	63	110(3.6)	87
Beryllium	75	0.75	<0.5	0.58	0.60	0.60	0.76(0.05)	<0.5	0.61	0.63
Cadmium	100	1	1.1(0.068)	1.0(0.06)	0.52	0.66	<0.5	<0.5	1.5(0.12)	<0.5
Chromium III/IV ²	2500/500	560/5	18	19	17	21	21	12	19	16
Cobalt	8000	80	5.7	7.8	8.2	8.8	11	4.8	8.4	8.0
Copper	2500	25	30(1.4)	29(0.52)	24	120(2.2)	20	26(0.67)	130(14)	13
Lead	1000	5	<u>130(14)</u>	140(2.1)	20(0.13)	84(2.1)	9.8(0.16)	60(2.3)	62(2.8)	7.6(0.23)
Mercury	20	0.2	-	-	-	-	-	-	-	-
Molybdenum	1500	350	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	2000	20	16	16	17	18	16	9.4	17	9.6
Selenium	100	1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	500	5	<2	<2	<2	<2	<2	<2	<2	<2
Thallium	700	7	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium	2400	24	22	29(0.60)	29(0.68)	28(0.55)	37(0.74)	19	30(<0.5)	28(<0.5)
Zinc	5000	250	100	89	56	150	50	64	190	36

¹ Samples were analyzed first for total concentration of metals; in cases where total concentration found exceeds Soluble Threshold Limit Concentration (STLC), Waste Extraction (WET) tests were performed to determine soluble fraction of that metal. These results are shown in parentheses. Underlined values in parentheses signify cases where the extractable concentration (soluble fraction) exceeds the STLC for that element.

² Reported as CR III plus CR IV.

* CAM: California Assessment Manual, California Department of Health Services.

TABLE 1 (continued)

Element	Total Threshold Limit Concentration (mg/kg net wt.)	Soluble Threshold Limit Concentration (mg/l leachate)	Z-4	X-1	X-2
Arsenic	500	5	<5	<5	<5
Antimony	500	15	<5	<5	<5
Barium	10,000	100	94	100	92
Beryllium	75	0.75	0.52	0.69	0.50
Cadmium	100	1	<0.5	<0.5	0.64
Chromium III/IV ²	2500/500	560/5	15	26	18/<5
Cobalt	8000	80	7.2	11	8.0
Copper	2500	25	13	19	18
Lead	1000	5	28(0.97)	8.4	47
Mercury	20	0.2	-	<0.1	<0.1
Molybdenum	3500	350	<10	<10	<10
Nickel	2000	20	9.4	14	12
Selenium	100	1	<1	<1	1.9
Silver	500	5	<2	<2	<2
Thallium	700	7	<1	7.7	6.2
Vanadium	2400	24	24	35	26
Zinc	5000	250	<0.5	49	88

¹ Samples were analyzed first for total concentration of metals; in cases where total concentration found exceeds Soluble Threshold Limit Concentration (STLC), Waste Extraction (WEF) tests were performed to determine soluble fraction of that metal. These results are shown in parentheses. Underlined values in parentheses signify cases where the extractable concentration (soluble fraction) exceeds the STLC for that element.

² Reported as CR III plus CR IV.

* CAM: California Assessment Manual, California Department of Health Services.

REPORT
CONE PENETROMETER SURVEY
SHALLOW SOIL VAPOR SURVEY
CAMPBELL PROPERTY
GREENLEAF AVENUE AND LOS NIETOS ROAD
SANTA FE SPRINGS, CALIFORNIA

JOB NO. 13262-014-42
AUGUST 14, 1986
LOS ANGELES, CALIFORNIA

Dames & Moore



TABLE 2

SHALLOW SOIL VAPOR PROBE MONITORING RESULTS

Vapor Probe and Sample Number		Total Organic Vapor Concentration (ppm)(1) As Measured On An OVA	Total Combustible Organic Vapor/Methane As Measured On An NGI(X)(2)
VP-1	1	>1,000	0
	2	20,000	-(3)
	3	20,000	-
	4	20,000	-
	5	20,000	-
	6	20,000	-
VP-2(4)	1	>10	0
VP-3	1	>1,000	0
	2	21,000	-
	3	18,000	-
	4	20,000	-
	5	20,000	-
	6	18,000	-

(1) PPM = parts per million

(2) The NGI measures any combustible gas in the 0-5% range and methane only in the 5-100% range.

(3) - = Not measured

(4) Due to continuous malfunction of OVA only a single reading was obtained.

TABLE 3
SHALLOW SOIL VAPOR ANALYTICAL RESULTS

SAMPLE	METHANE (PPM)(1)	TOTAL NON-METHANE HYDROCARBONS AS HEXANE (PPM)(1)
VP-1	9,500	<10(2)
VP-2	<2.0(2)	<10(2)
VP-3	11,200	29

(1) ppm = parts per million

(2) the less than (<) symbol means "not present at or above the indicated value (detection limit)".

June 23, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: WASTE DISPOSAL, INC.

LOCATION: 12817 Los Nietos Rd., Santa Fe Springs, CA 90670

222
11/14/85

GROUND WATER ROUTE

1 OBSERVED RELEASE None

Contaminants detected (5 maximum):

Rationale for attributing the contaminants to the facility:

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

<u>Name of aquifer</u>	<u>Depth from surface at 25/11W-32</u>
Gardena	50'
Hollydale	100'
Jefferson	150'
Lynwood	300-500'
Silverado	600-750'

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

Two nearby wells were measured by LACFCD in 1984:

1. LACFCD 1644G = 25/11W-32K5, 32.6' to water on 4-13-84

2. LACFCD WASH = 25/11W-32Q3, 43.6' to water on 6-11-84

Depth from the ground surface to the lowest point of waste disposal/storage:

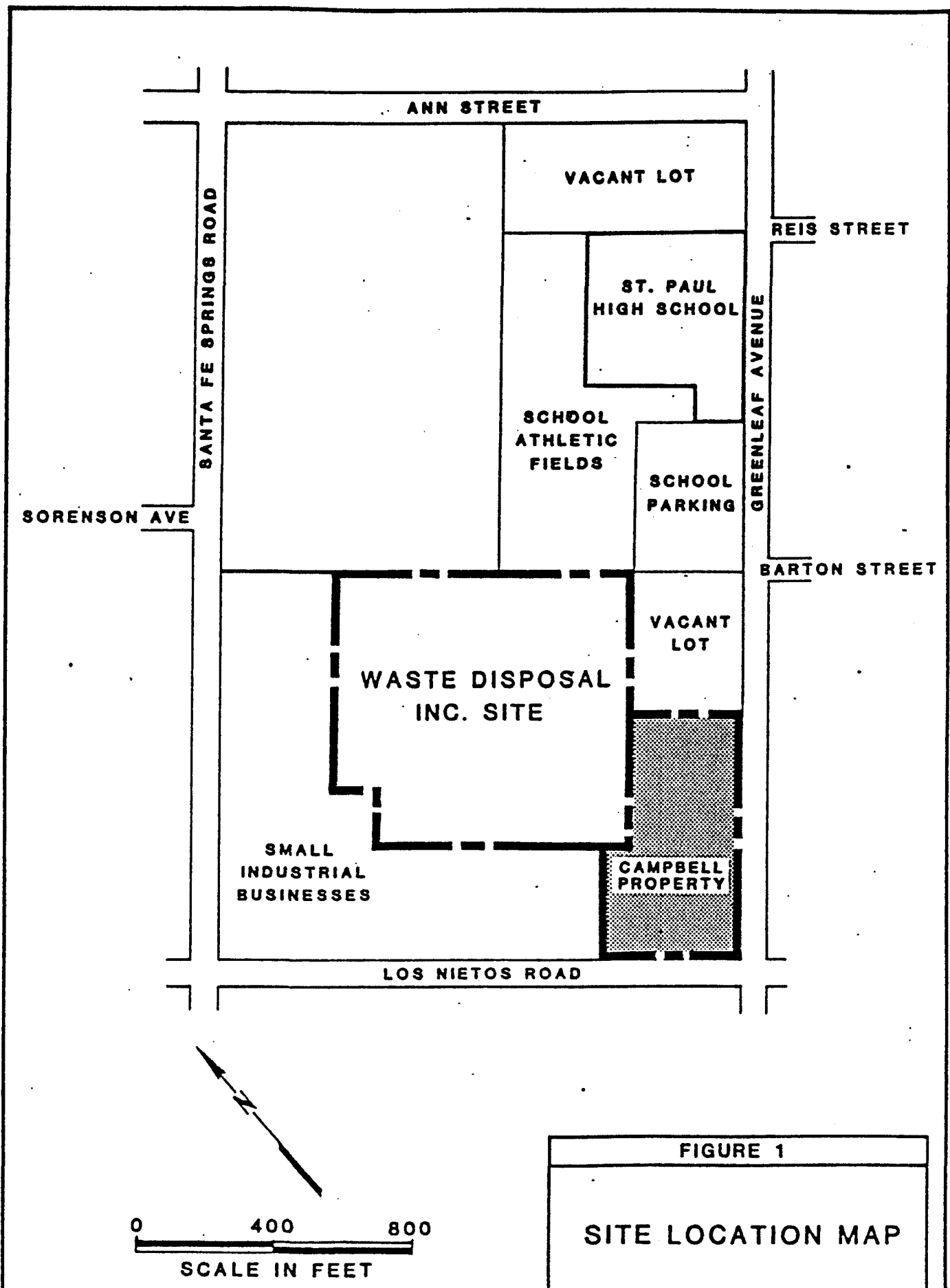
Analytical results indicate waste at a depth of 20 feet.

Depth to aquifer of concern: $32.6' - 22' = 10.60'$

Value of 3.

SCORE = 6

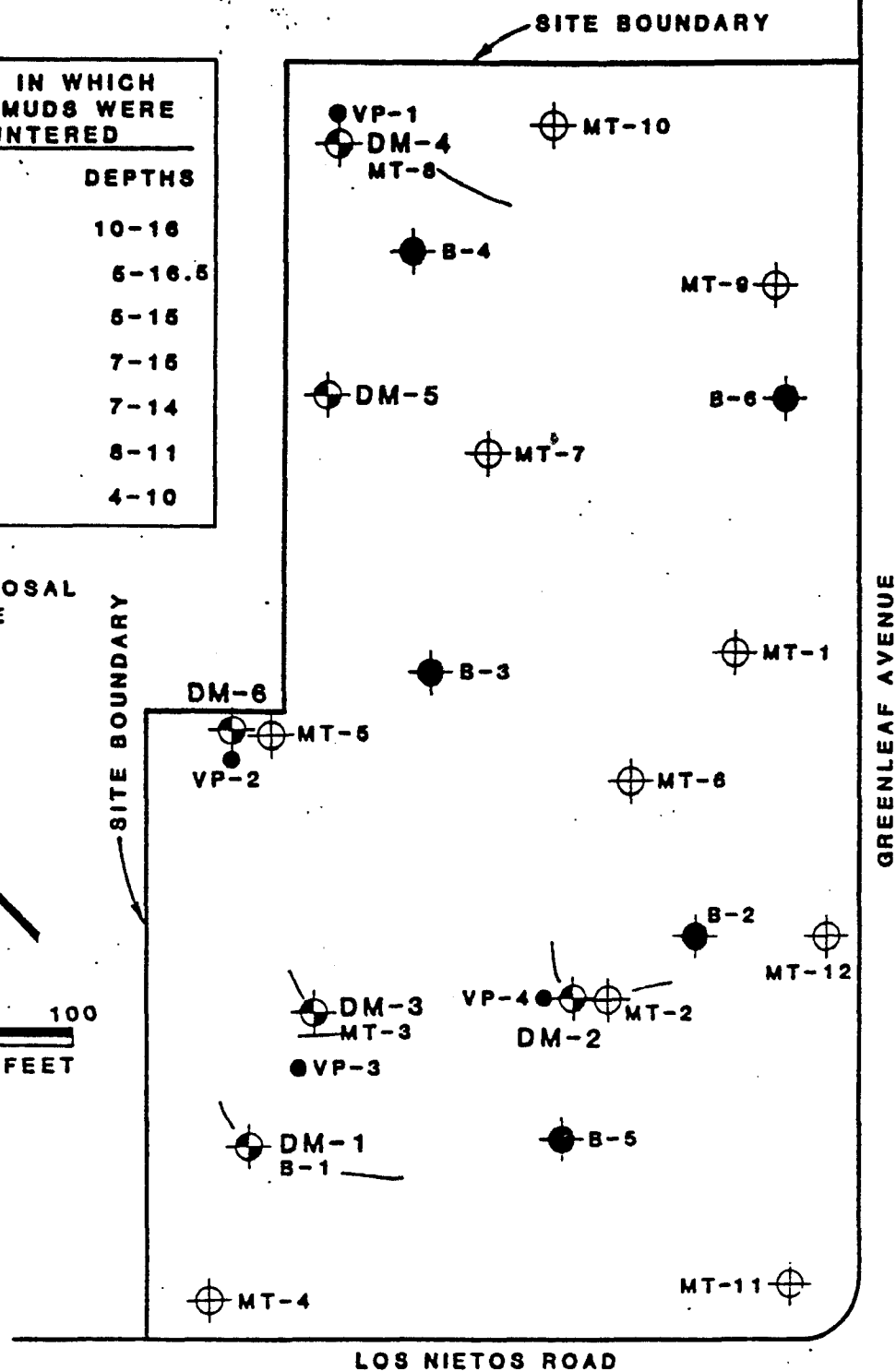
11/14/85



BORINGS IN WHICH DRILLING MUDS WERE ENCOUNTERED	
BORING	DEPTHS
DM-1	10-16
DM-2	6-16.5
DM-3	6-15
B-1	7-16
MT-2	7-14
MT-3	8-11
MT-8	4-10

WASTE DISPOSAL
INC. SITE

0 50 100
SCALE IN FEET



EXPLANATION:

- DM-1 ● DAMES & MOORE BORING (1986)
- B-4 ● EJN & ASSOCIATES BORING (1985)
- MT-3 ⊕ MOORE & TABER BORING (1981)
- VP-1 ● VAPOR PROBE

FIGURE 2

**CAMPBELL PROPERTY
BORING LOCATION
MAP**

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

REF 4

16 inches of mean annual precipitation.

Mean annual lake or seasonal evaporation (list months for seasonal):

REF 4

54 inches of mean annual lake evaporation.

Net precipitation (subtract the above figures):

16-54 inches = -38 inches. Value of 0.

SCORE = 0

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Soil samples were taken for Dames & Moore and analyzed by California Analytical Laboratories.

REF 3

1. West of reservoir: 14-18' clay with silt, sand

2. North-southwest of reservoir: 8-21' clay with silt, 22-24' sand

3. East-southeast of reservoir: 4-9' clay with silt, 9-18' silty clay, 18-20' clayey sand

Permeability associated with soil type:

REF 4

Based on Table 2 of Uncontrolled Hazardous Waste Site Ranking System:
A Users Manual.

Value of 1.

SCORE = 1

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

REF 3

REF A

Site investigation identified liquid waste at \pm 22 feet.

11/14/85

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Integrity of cement lining of large surface impoundment has not been evaluated. Disposal in areas outside surface impoundment or possible leakage of impoundment is evident from sampling results of boring in area outside impoundment.

Method with highest score:

There is no containment in the contaminated areas outside the surface impoundment.

Value of 3 Score = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Benzo(a)pyrene: 3 Toxicity 3 Persistence

Phenanthrene: 3 Toxicity 2 Persistence

Phenol : 3 Toxicity, 1 Persistence

Benzene : 3 Toxicity, 1 Persistence

Toluene : 2 Toxicity, 1 Persistence

Compound with highest score:

Benzo(a)pyrene

Value of 18

SCORE = 18

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

270,599 yd³ = volume of surface impoundment

Basis of estimating and/or computing waste quantity:

Method: Cement-lined reservoir 25 ft deep and 610 feet diameter (diameter determined from scaled map)

$$A = \pi r^2$$

$$\text{Area} \times \text{depth} = \text{Volume}$$

$$292,217 \text{ ft}^2 \times 25 \text{ ft} = 7,304,166 \text{ ft}^3 = 270,599 \text{ yd}^3$$

$$(27 \text{ ft}^3 = \text{yd}^3)$$

Value of 8

270,599
11/14/85

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

The aquifers of concern are used to supply 60% of the city of Santa Fe Springs drinking water and for irrigation. The city does not have an alternate source available to meet the present demand for which groundwater is now used. Value = 3 Score = 9

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Location on nearest active well is approximately 3000 ft from site Well # 2511W 32JØ4S owned by Whittier Union High School District. This well is a domestic and irrigation well per Chris Nagler of DWR.

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

City of Santa Fe Springs Wells:

State Well #	Owner #
25/11W-3ØRØ3S	1
25/12W-25QØ5S	304W1
35/17W-Ø6DØ39	4

Whittier Union High School Dist.

25/11W-32JØ4S

SA550

As well as others which may be located in 3 mile radius and are owned by Suburban Water Systems & San Gabriel Valley Water Co. Total population served by ground water within a 3-mile radius:

4200 connections x 3.8 persons per connection = 15,960

Value of 5

SCORE = 3.5

11/14/85

SURFACE WATER ROUTE

1 OBSERVED RELEASE *None*

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

Rationale for attributing the contaminants to the facility:

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

REF 7 Using the USGS Whittier, Calif. quad, a 10-foot rise a 2500-foot run was measured.

$$\frac{10}{2500} \times 100\% = 0.4\% \text{ slope}$$

Name/description of nearest downslope surface water:

San Gabriel River

REF 7

Average slope of terrain between facility and above-cited surface water body in percent:

$$160 - 120 = 40 \text{ ft. rise}$$

REF 7

13000 ft. run

0.3 % slope

Value of 0.

SCORE = 0

Is the facility located either totally or partially in surface water? No

REF 7

11/14/85

Is the facility completely surrounded by areas of higher elevation? *No*

REF 7

1-Year 24-Hour Rainfall in Inches

4 inches per HRS manual

REF 4

Value of 3.

SCORE = 3

Distance to Nearest Downslope Surface Water

13000 ft. to San Gabriel River

2000 ft to Sorenson Ave Drain

REF 7

Value of 2.

SCORE = 4

Physical State of Waste

See groundwater.

SCORE = 3

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Surface impoundment had breaks in the berm, historical evidence of surface outwash, and poor and inadequate run-on diversion structures

SCORE = 3

Method with highest score:

REF A

*XiA
11/14/85*

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

See groundwater.

SCORE = 12

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

See groundwater.

SCORE = 0

Basis of estimating and/or computing waste quantity:

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Although the San Gabriel River is within 3 miles, no fishing is done in this particular part of the river. (The river area is primarily used for groundwater recharge.)

Value of 0

SCORE = 0

EF 10
KF 11

KEP
11/14/85

Is there tidal influence? No, not this far north.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

REF 7

Using the USGS quad and USFWS Pacific Coast Ecological Inventory map, site is not within 2 miles of any sensitive environment.

Value of 0.

SCORE = 0

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

REF 10

There are no water-supply intakes of surface water in area.

Value of 0.

SCORE = 0

Kiⁿ
11/14/85

Computation of land area irrigated by above-cited intake(s) and
conversion to population (1.5 people per acre):

Total population served:

Name/description of nearest of above water bodies:

Distance to above-cited intakes, measured in stream miles.

LCB
11/14/85

AIR ROUTE

REF A

1 OBSERVED RELEASE

No observed air release^{known}, according to abandoned site project file.

Contaminants detected:

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

LC72
11/14/85

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

HC
11/14/85

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

KEB
11/14/85